

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Listing of Claims:

1. (**Currently Amended**) A method for calculating ~~determining~~ the activity of a cyclin-dependent kinase ~~cell cycle regulatory factor~~ comprising the steps of:

preparing a sample for ~~measuring a cyclin-dependent kinase/cyclin complex~~ from living cells;

catching the cyclin-dependent kinase in the sample by an anti-cyclin-dependent kinase antibody;

reacting adenosine 5'-O-(3-thiotriphosphate) (ATP- S) with a substrate for the cyclin-dependent kinase in presence of the ~~sample~~ cyclin-dependent kinase in order to introduce a monothiophosphate group into a serine or threonine residue of the substrate, the substrate not containing a sulfur atom;

labeling the substrate by coupling a labeling fluorophore or a labeling enzyme with a sulfur atom of the introduced monothiophosphate group;

removing the fluorophore or the enzyme not labeling the substrate from the labeled substrate;

measuring the amount of fluorescence from the labeling fluorophore labeling the substrate, or reacting the labeling enzyme labeling the substrate with a substance which generates

an optically detectable product by reaction with the labeling enzyme and optically measuring the amount of the generated product; and

calculating the activity of the cyclin-dependent kinase from the measured amount of fluorescence or the measured amount of the generated product with reference to a pre-produced reference curve.

2. **(Currently Amended)** The method according to claim 1, wherein the cyclin-dependent kinase ~~of the complex~~ is selected from the group consisting of CDK1, CDK2, CDK4 and CDK6.

3. **(Original)** The method according to claim 1, wherein the labeling fluorophore is a fluorescent dye.

4. **(Original)** The method according to claim 3, wherein the fluorescent dye is FITC.

5. **(Original)** A method according to claim 1, wherein the labeling enzyme is peroxidase.

6. **(Currently Amended)** A method according to any one of claims 1 to 5, wherein the cyclin-dependent kinase ~~of the complex~~ is CDK1 or CDK2 and the substrate is histone H1.

7. **(Currently Amended)** A method according to any one of claims 1 to 5, wherein the cyclin-dependent kinase ~~of the complex~~ is CDK4 or CDK6 and the substrate is Rb whose cysteine residue is substituted by alanine.

8. **(Cancelled).**

9. **(Cancelled).**

10. **(New)** A method for obtaining the activity of a cyclin-dependent kinase comprising the steps of:

preparing a sample from living cells;

catching the cyclin-dependent kinase in the sample by anti-cyclin-dependent kinase antibody;

reacting adenosine 5'-O-(3-thiotriphosphate) (ATP- S) with a substrate for the cyclin-dependent kinase in presence of the cyclin-dependent kinase in order to introduce a monothiophosphate group into a serine or threonine residue of the substrate, the substrate not containing a sulfur atom;

labeling the substrate by coupling a labeling fluorophore or a labeling enzyme with a sulfur atom of the introduced monothiophosphate group;

removing the fluorophore or the enzyme not labeling the substrate from the labeled substrate;

measuring the amount of fluorescence from the labeling fluorophore labeling the substrate, or reacting the labeling enzyme labeling the substrate with a substance which generates an optically detectable product by reaction with the labeling enzyme and optically measuring the amount of the generated product; and

obtaining the activity of the cyclin-dependent kinase from the measured amount of fluorescence or the measured amount of the generated product.